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EXAMINER
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KADING, JOSHUA A

ART UNIT	PAPER NUMBER
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2661

DATE MAILED: 02/25/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

7

# Office Action Summary

Application No.

09/611,342

Applicant(s)

IKEDA, SABUROU

Examiner

Joshua Kading

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12-9-03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,3-6,9-15,17,19 and 21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,11-15,17,19 and 21 is/are rejected.
- 7) ☒ Claim(s) 1,9,10,13,15 and 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 6.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

Claims 1, 13, 15, and 21 are objected to because of the following informalities:

Claim 1, line 15 should be changed from "said public network..." to --wherein said public network... --. This is done because this limitation further limits the preamble and not the connection apparatus.

Claim 1, lines 17-18 state, "said plurality of trunk ports". This should be changed to --said first plurality of trunk ports--.

Claim 13, lines 2 and 6 state, "ID/password". This should be changed to --ID and password--.

Claim 15, line 18 should be changed from "said public network..." to --wherein said public network... --. This is done because this limitation further limits the preamble and not the connection apparatus.

Claim 15, line 20 states, "said plurality of trunk ports". This should be changed to --said first plurality of trunk ports--.

Claim 21, line 3 states, "a first and second". This should be changed to --a first and second--.

Claim 21, line 10 states, "said plurality of line ports". This should be changed to --said second plurality of line ports--.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11, 12, 13, and 14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 recites the limitation "the demultiplexer" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claims 12, 13, and 14 recite the limitation "said set of branch connections" in lines 6, 8, and 5 respectively. There is insufficient antecedent basis for this limitation in the claim.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-6, 15, 17, 19, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimojo et al. in view of DeNap et al. (U.S. Patent 6,490,273 B1).

In regard to claim 1, Shimojo discloses "a connection apparatus for a public network switching system, the switching system having a first plurality of line ports to which a plurality of user terminals are connected, a second plurality of line ports, a first plurality of trunk ports..., and a second plurality of trunk ports, the apparatus comprising:

a switching unit having a plurality of diverging ports adapted for connection to said second plurality of trunk ports and a plurality of converging ports adapted for connection to said second plurality of line ports (figure 13, elements 96 show a switching unit having a plurality of diverging ports (inputs) connecting the trunk lines (outputs) of switch 92); and

a control unit responsive to a request signal from one of said user terminals for establishing in said switching unit at least one connection specified by said request signal between one of said diverging ports and at least one of said converging ports (figure 13, elements 94 and 132 provide control information to the switching unit as can be read in col. 11, lines 40-43);

[wherein] said public network switching system establishing a connection between said one diverging port and said one user terminal and at least one connection between said second plurality of line ports and said [first] plurality of trunk ports corresponding in number to said at least one connection established in said switching unit (figure 13 where the data cell entering switch 92 at the first line port follows the darkened line path through the switching unit 96 back through switch 92 and on to be transmitted)."

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However, Shimojo lacks "...Internet lines..." DeNap however, discloses "...Internet lines (figure 1, element 160 represents the Internet and element 120 as seen in figure 5 represents the entire ATM switch apparatus 90 of Shimojo in figure 13; see also col. 5, lines 36-38 of DeNap)..."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the Internet lines with the ATM switch for the purpose of expanding a user's service to include Internet access. The motivation being to allow the user to have different services (voice, video, Internet, etc.) consolidated to be transportable using one technology (col. 1, lines 24-31).

In regard to claim 3, Shimojo and DeNap disclose "the connection apparatus of claim 1". However, Shimojo lacks "each of said plurality of converging ports includes a multiplexer for multiplexing a plurality of user signals into a signal for transmission to one of said Internet lines." DeNap however, further discloses "each of said plurality of converging ports includes a multiplexer for multiplexing a plurality of user signals into a signal for transmission to one of said Internet lines (figure 10, element 815; although the multiplexer is not with the ATM switch in element 120, it is a matter of design choice if it is placed with the switch or outside the switch, the same result is obtained with both options, i.e. the multiplexing of user signals into one signal)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the multiplexing with the apparatus of claim 1 for the purpose of allowing many users to access the network at the same time. The motivation being increased throughput.

In regard to claim 4, Shimojo and DeNap disclose "the connection apparatus of claim 3". However, Shimojo lacks "each of said plurality of converging ports includes a demultiplexer for demultiplexing a signal from one Internet line into a plurality of signals to said diverging ports." DeNap however, further discloses "each of said plurality of converging ports includes a demultiplexer for demultiplexing a signal from one Internet line into a plurality of signals to said diverging ports (figure 10, element 815 where element 815 is also a demultiplexer as it operates in both directions and therefore must also be a demultiplexer; although the demultiplexer is not with the ATM switch in element 120, it is a matter of design choice if it is placed with the switch or outside the switch, the same result is obtained with both options, i.e. the demultiplexing of a signal into many user signals)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the demultiplexing with the apparatus of claim 3 for the same reasons and motivation as in claim 3.

In regard to claims 5 and 6, Shimojo and DeNap disclose "the connection apparatus of claims 3 and 4". However, Shimojo and DeNap both lack "said multiplexer (or demultiplexer) is configured to operate in a TCP/IP protocol mode." Although both Shimojo and DeNap lack the TCP/IP protocol mode, it would have been obvious to one with ordinary skill in the art at the time of invention to choose the TCP/IP protocol as a matter of network requirements and design choice. The protocol mode is dependent on

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the backbone networks protocol and is chosen accordingly. The motivation for choosing TCP/IP being to allow for connection to the Internet.

In regard to claim 15, Shimojo discloses "a connection apparatus for a public network switching system which serves user terminals..., said switching system having a first plurality of line ports...a second plurality of line ports, a first plurality of trunk ports..., and a second plurality of trunk ports, the apparatus comprising:

a switching unit having a first plurality of diverging ports adapted for connection to said second plurality of trunk ports, a second plurality of diverging ports..., and a plurality of converging ports adapted for connection to said second plurality of line ports (figure 13, elements 96 show a switching unit having a plurality of diverging ports (inputs) connecting the trunk lines (outputs) of switch 92); and

a control unit responsive to a request signal...for establishing in said switching unit at least one first connection between one of said first plurality of diverging ports and at least one of said converging ports specified by said request signal and at least one a second connection between one of said second plurality of diverging ports and said at least one of said converging ports (figure 13, elements 94 and 132 provide control information to the switching unit as can be read in col. 11, lines 40-43),

[wherein] said public network switching system establishing a connection between a user terminal and said one of said first plurality of diverging ports and at least one connection between said second plurality of line ports and said [first] plurality of trunk ports corresponding to said at least one first connection established in said



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switching unit (figure 13 where the data cell entering switch 92 at the first line port follows the darkened line path through the switching unit 96 back through switch 92 and on to be transmitted)."

However, Shimojo lacks "...ADSL modems..." as the user terminals and "...Internet lines..." DeNap however, discloses "...ADSL modems..." as the user terminals (col. 2, lines 25-28 where the xDSL includes ADSL as is known in the art) and "...Internet lines (figure 1, element 160 represents the Internet and element 120 as seen in figure 5 represents the entire ATM switch apparatus 90 of Shimojo in figure 13; see also col. 5, lines 36-38 of DeNap)..."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the ADSL modems and Internet lines with the ATM switch for the purpose of expanding a user's service to include Internet access. The motivation being to allow the user to have different services (voice, video, Internet, etc.) consolidated to be transportable using one technology (col. 1, lines 24-31).

In regard to claim 17, Shimojo discloses "a communication system comprising: a public network switching system having a first plurality of line ports to which a plurality of user terminals are connected, and a first plurality of trunk ports..., and a second plurality of trunk ports (figure 13, where all line ports are coming into switch 92, all trunk ports are exiting switch 92, and the user terminals are connected to the input lines as is suggested by the "data cell" entering switch 92);

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a switching unit having a plurality of diverging ports connected to said second plurality of trunk ports and a plurality of converging ports connected to a second plurality of line ports (figure 13, elements 96 show a switching unit having a plurality of diverging ports (inputs) connecting the trunk lines (outputs) of switch 92); and

a control unit responsive to a request signal from one of said user terminals for establishing in said switching unit at least one connection specified by said request signal between one of said diverging ports and at least one of said converging ports (figure 13, elements 94 and 132 provide control information to the switching unit as can be read in col. 11, lines 40-43),

said public network switching system establishing a connection between said one diverging port and said one user terminal, and at least one connection between said second plurality of line ports and said first plurality of trunk ports corresponding to said at least one connection established in said switching unit (figure 13 where the data cell entering switch 92 at the first line port follows the darkened line path through the switching unit 96 back through switch 92 and on to be transmitted).”

However, Shimojo lacks “...Internet lines...” DeNap however, discloses “...Internet lines (figure 1, element 160 represents the Internet and element 120 as seen in figure 5 represents the entire ATM switch apparatus 90 of Shimojo in figure 13; see also col. 5, lines 36-38 of DeNap)...”

It would have been obvious to one with ordinary skill in the art at the time of invention to include the Internet lines with the ATM switch for the purpose of expanding a user's service to include Internet access. The motivation being to allow the user to

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have different services (voice, video, Internet, etc.) consolidated to be transportable using one technology (col. 1, lines 24-31).

In regard to claim 19, Shimojo discloses "a communication system comprising:

a public network switching system having a first plurality of line ports...a second plurality of line ports, a first plurality of trunk ports...and a second plurality of trunk ports (figure 13, where all line ports are coming into switch 92, all trunk ports are exiting switch 92, and the user terminals are connected to the input lines as is suggested by the "data cell" entering switch 92);

a switching unit having a first plurality of diverging ports connected to said second plurality of trunk ports, a second plurality of diverging ports...and a plurality of converging ports connected to said second plurality of line ports (figure 13, elements 96 show a switching unit having a plurality of diverging ports (inputs) connecting the trunk lines (outputs) of switch 92); and

a control unit responsive to a request signal...for establishing in said switching unit at least one first connection between one of said first plurality of diverging ports and at least one of said converging ports specified by said request signal and at least one second connection between one of said second plurality of diverging ports and said at least one of said number of said converging ports (figure 13, elements 94 and 132 provide control information to the switching unit as can be read in col. 11, lines 40-43),

said public network switching system establishing a connection between a user terminal and said one of said first plurality of diverging ports and at least one connection

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between said second plurality of line ports and said first plurality of trunk ports corresponding to said at least one first connection established in said switching unit (figure 13 where the data cell entering switch 92 at the first line port follows the darkened line path through the switching unit 96 back through switch 92 and on to be transmitted)."

However, Shimojo lacks "...ADSL modems..." as user terminals and "...Internet lines..." DeNap however, discloses "...ADSL modems..." as the user terminals (col. 2, lines 25-28 where the xDSL includes ADSL as is known in the art) and "...Internet lines (figure 1, element 160 represents the Internet and element 120 as seen in figure 5 represents the entire ATM switch apparatus 90 of Shimojo in figure 13; see also col. 5, lines 36-38 of DeNap)..."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the ADSL modems and Internet lines with the ATM switch for the purpose of expanding a user's service to include Internet access. The motivation being to allow the user to have different services (voice, video, Internet, etc.) consolidated to be transportable using one technology (col. 1, lines 24-31).

In regard to claim 21, Shimojo discloses "a method of communication for a public network switching system by using a switching unit, said public network switching system having a first and second plurality of line ports, and a [first] and second plurality of trunk ports, and said switching unit having a plurality of diverging ports and a plurality

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of converging ports, wherein a plurality of user terminals are connected to said first plurality of line ports...the method comprising:

connecting said plurality of diverging ports to said second plurality of trunk ports  
connecting said plurality of converging ports to said [second] plurality of line ports  
(figure 13 where the diverging ports on elements 96 are connected to the trunk ports of switch 91 and the converging ports of elements 96 are connected to the line ports of switch 92);

receiving a request signal from one of said user terminals via one of said first plurality of line ports (figure 13, element 132 provides control information to the switching unit as can be read in col. 11, lines 40-43);

establishing, in said public network switching system, a connection between said one of said first plurality of line ports and one of said second plurality of trunk ports and at least one connection specified by said request signal between said second plurality of line ports and said first plurality of trunk ports (figure 13, where the data cell in solid line is show connecting the line ports to trunk ports which connect to the switching unit which connect back to the line ports and out through the trunk ports); and

establishing, in said switching unit, at least one connection between one of said diverging ports and at least one of said converging ports corresponding to said at least one connection established in said public network switching system, said one of said diverging ports being connected to said one of said second plurality of trunk ports (figure 13 where the switching unit shows a connection between the switch 92 and itself)."

However, Shimojo lacks "...Internet lines..." DeNap however, discloses "...Internet lines (figure 1, element 160 represents the Internet and element 120 as seen in figure 5 represents the entire ATM switch apparatus 90 of Shimojo in figure 13; see also col. 5, lines 36-38 of DeNap)..."

It would have been obvious to one with ordinary skill in the art at the time of invention to include the ADSL modems and Internet lines with the ATM switch for the purpose of expanding a user's service to include Internet access. The motivation being to allow the user to have different services (voice, video, Internet, etc.) consolidated to be transportable using one technology (col. 1, lines 24-31).

#### ***Allowable Subject Matter***

Claims 9 and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

Applicant's arguments with respect to claims 1, 3-6, 11-15, 17, 19, and 21 have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments, see page 23, section B of Remarks, filed December 9, 2003, with respect to claims 9 and 10 have been fully considered and are persuasive. The rejections of claims 9 and 10 have been withdrawn.

Corrections to the objections listed in the previous office action for claims 1, 8, 14-15, 17, 19, and 21 have been made, and thus the objections are withdrawn.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Kading whose telephone number is (703) 305-0342. The examiner can normally be reached on M-F: 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Olms can be reached on (703) 305-4703. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JK  
February 20, 2004

  
**KENNETH VANDERPUYE**  
**PRIMARY EXAMINER**

Joshua Kading  
Examiner  
Art Unit 2661